

CLAIMS

1. A casing for containing apparatus which in use generates heat, the casing including a heat exchanger arranged to act as a removable wall (preferably a lid) of the casing, and fluid directing means arranged to be on the exterior of the said removable wall for directing a heat transfer fluid in thermal contact with the said wall in use, such that heat generated in the interior of the casing is transferred to the heat transfer fluid by conduction through the material of the said wall.
2. A casing as claimed in claim 1, in which the heat transfer fluid is air and in which air inlet and outlet pipes are provided to channel air to and from a heat transfer chamber incorporating the fluid directing means
3. A casing as claimed in Claim 2, in which there are provided means for preventing water from entering the pipes.
4. A casing as claimed in Claim 3, in which the ends of the pipes remote from the heat transfer chamber terminate with an air orifice which is orientated to point substantially downwards in use.
5. A casing as claimed in any of Claims 2 to 4, in which the inlet/outlet pipes are arranged so that, in use, air enters/exits the pipes at a point lower than that at which it enters/exits the heat transfer chamber.
6. A casing as claimed in any preceding claim, further comprising means for driving the heat transfer fluid to flow through the fluid directing means.
7. A casing as claimed in any preceding claim, in which the wall carries, on its surface remote from the said fluid directing means, a channel for circulation of heated air within the casing in use and the channel includes at least one propulsion means (preferably a fan unit) for assisting the circulation of the air through the said channel.

8. A casing according to claim 7, wherein the propulsion means is a fan unit removably mounted in an aperture in the wall of the said channel which is innermost within the casing in use.

5 9. A casing as claimed in any preceding claim, in which the fluid directing means are defined at least in part by a plurality of upstanding ribs projecting from the exterior face of the wall.

10. A casing as claimed in Claim 9, in which the interior face of the wall has a plurality of
10 upstanding ribs offset with respect to the ribs on the exterior face.

11. A heat exchanger as claimed in Claim 10, in which the opposing faces of the exterior and interior ribs are substantially co-linear.

15 12. A casing for housing apparatus which in use generates heat, the casing having a heat exchanger as claimed in any preceding claim.

13. Heat transfer means for assisting in cooling a casing housing apparatus which in use generates heat and is intended to be located in a confined chamber, the heat transfer means
20 comprising a fluid-filled (preferably sealed) enclosure positionable between the exterior of the casing and the interior of the confined chamber for transferring heat from the casing to the confined chamber.

14. Heat transfer means as claimed in Claim 13, which means comprises a flexible, fluid-
25 filled enclosure able to conform to the exterior shape of the casing and the interior shape of the chamber.

15. Heat transfer means as claimed in Claim 13, which means comprises a substantially rigid, fluid-filled tank.

30 16. Heat transfer means as claimed in Claim 15, in which at least part of the tank contacts one or both of the exterior of the apparatus and the interior of the chamber indirectly via one or

more heat transfer members.

17. Heat transfer means as claimed in Claim 16, in which heat transfer member/s are located on the tank.

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18. Heat transfer means as claimed in Claim 16 or Claim 17, in which heat transfer member/s are located on the exterior of the apparatus and/or the interior of the chamber.

10 19. Heat transfer means as claimed in any of Claims 16 to 18, in which the heat transfer members comprise upstanding fins.

20. Heat transfer means as claimed in any of Claims 15 to 19, in which at least part of the tank contacts one or both of the exterior of the apparatus and the interior of the chamber directly.

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21. Heat transfer means as claimed in any of Claims 13 to 20, in which the fluid is distilled water.

20 22. Heat transfer means as claimed in any of Claims 13 to 21, in which the fluid is driven to circulate within the enclosure.

25 23. A method of enhancing heat dissipation from a casing housing apparatus which in use generates heat and is intended to be placed within a confined chamber, comprising the step of positioning heat transfer means according to any of Claims 13 to 22 between and in thermal contact with the exterior surface of the apparatus and the interior surface of the chamber.

24. A method according to Claim 23, in which the enclosure is positioned between the surfaces prior to being filled with fluid, and thereafter is filled in situ.

30 25. Apparatus for use in transferring heat between spaced surfaces one of which forms at least part of an enclosure housing apparatus which in use generates heat, having means defining respective resiliently flexible surfaces each capable of conforming closely to the shape of the

respective spaced surface, and heat transfer means in thermal contact with both of the resiliently flexible surfaces.

26. Apparatus as claimed in Claim 25, in which the apparatus comprises a fluid-filled enclosure.

27. Apparatus as claimed in Claim 25, in which the apparatus comprises an unenclosed, self-supporting volume of thermally conductive material.

28. A heat exchanging system for a casing housing apparatus which in use generates heat and is intended to be located in an underground chamber, the system comprising a heat transfer conduit for conducting a heat transfer fluid and adapted to receive heat from the casing, the heat transfer conduit being elongate and extending substantially linearly and preferably substantially entirely underground.

29. A heat exchanging system as claimed in Claim 28, in which the conduit is in the form of a closed loop extending away from and returning to the chamber.

30. A heat exchanging system as claimed in Claim 28 or Claim 29, in which the conduit extends from the underground chamber to a remote underground chamber.

31. A heat exchanging system as claimed in any of Claims 28 to 30, in which the conduit is routed away from the chamber through existing ducts already extending from the chamber.

32. A heat exchanging system as claimed in Claim 31, in which the conduit is a loop and the loop extends away from the chamber in a duct and returns to the chamber in a different duct.

33. A heat exchanging system as claimed in any of Claims 28 to 32, in which the conduit is at least 10 metres in length.

34. A heat exchanging system as claimed in any of Claims 28 to 32, in which the conduit is at least 30 metres in length.

35. A heat exchanging system as claimed in any of Claims 25 to 31, in which the system further comprises driving means for driving the heat transfer fluid through the conduit.

5 36. A heat exchanging system for a casing housing apparatus which in use generates heat and is intended to be located in an underground chamber, the system comprising a heat transfer conduit for conducting a heat transfer fluid and adapted to receive heat from the casing, the heat transfer conduit extending between the chamber and a remote chamber.

10 37. A heat exchanging system as claimed in Claim 36, in which the conduit comprises a closed loop extending between the chambers.

38. A heat exchanging system as claimed in Claim 36 or Claim 37, in which the conduit is routed through existing ducts already extending from the chamber or between the chambers.

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39. A heat exchanging system as claimed in Claim 38, in which the conduit is a loop and the loop extends away from the chamber in a duct and returns to the chamber in a different duct.

20 40. A heat exchanging system as claimed in any of Claims 36 to 39, in which the system further comprises driving means for driving the heat transfer fluid through the conduit.

41. A heat exchanging system as claimed in any of Claims 36 to 40, in which the conduit is at least 10 metres in length.

25 42. A heat exchanging system as claimed in any of Claims 36 to 40, in which the conduit is at least 30 metres in length.